SIEMENS

ARCADIS

SP

Installation and Startup

System

Local Printer Installation

Codonics EP-1660
Sony UP-D72XR
Sony UP 970
Sony UP 990

Document revision level

The document corresponds to the version/revision level effective at the time of system delivery. Revisions to hardcopy documentation are not automatically distributed.

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Safety information

General safety information (in existing documents)

⚠ **WARNING**	**Danger of injuries, death or material damage.**
	Non-compliance can lead to death, injury or material damage.
	Please note:

    ⇨ **The product-specific safety information in these instructions,**

    ⇨ **The general safety information in TD00-000.860.01... and**

    ⇨ **The safety information in accordance with ARTD Part 2.**

General electrical safety information

⚠ **WARNING**	**Electrical safety!**
	Non-compliance can lead to severe injury or even death, as well as material damage.

    ⇨ **Parts under electrical voltage are accessible when the covers are open. To avoid danger, disconnect the system from the power supply before opening the covers. Disconnect the power plug.**

    ⇨ **If an uninterruptible power supply (UPS) is installed in the system, the voltage output of the UPS must also be deenergized or the voltage output plug must be disconnected.**

    ⇨ **If work steps must be performed using electrical power, the general safety information according to TD00-000.860.01... must be observed.**

Product-specific information

NOTE	**Local printer, PostScript printer**
	These printer types are not approved for diagnostic purposes.
	Notify the responsible personnel about this limitation.

Information on the protective conductor resistance test

Observe the instructions in the "Safety Rules for Installation and Repair" (ARTD-002.731.17 ...).

The protective conductor resistance must be measured after every intervention in the system.

However, documentation of the measured values is required only during periodic safety checks.

If parts or components that can significantly influence the protective conductor resistance (e.g., replacement of the power cable, replacement of the power-up module, replacement of multi-pole connection cables that also create the protective conductor connection between system parts (e.g., monitor cable or C-arm cable)) are replaced or if protective conductor connections have been repaired, the protective conductor resistance must be measured. The values must be documented and assessed in the protective conductor resistance report.

NOTE	**For evaluation purposes, the first measured value and the values documented during previous maintenance or safety checks must be compared to the measured values. A sudden or unexpected increase in the measured values may indicate a defect in the protective conductor connections - even if the limit value of 0.2 ohms is not exceeded. (Protective conductor or contacts).**

The measurement must be performed in accordance with DIN VDE 0751, Part 1 (refer to ARTD Part 2). The protective conductor resistance for all touchable conductive parts must be measured during the normal operating state of the system.

Make sure that control cables or data cables between the components of the system are not mistaken for protective conductor connections.

During the measurement, the power cable and additional connection cables that also create the protective conductor connection between system parts (e.g. monitor cable between the basic unit and monitor trolley) must be moved section by section to detect cable breaks.

The protective conductor resistance must not exceed 0.2 ohms.

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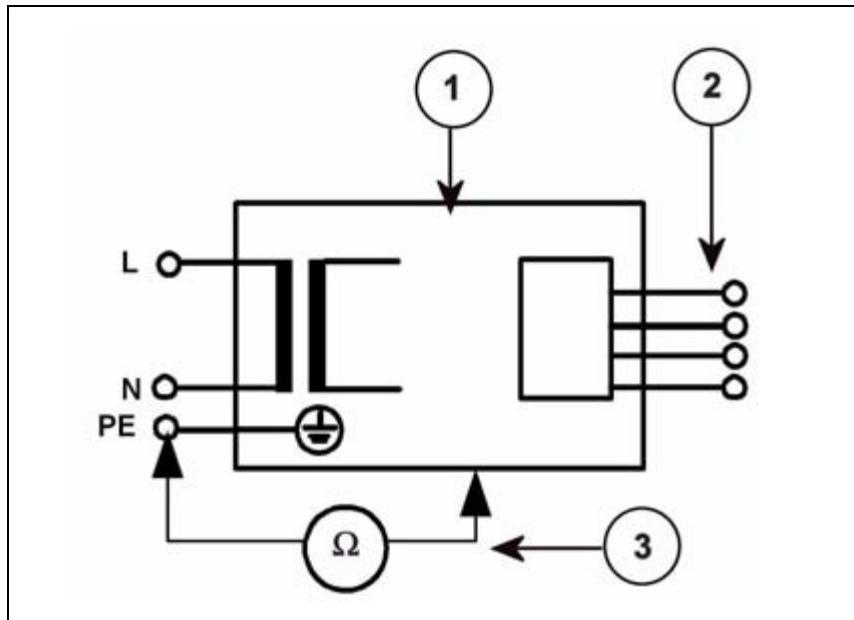
Fig. 1:   *Measuring circuit for measuring the protective conductor resistance for units that are disconnected from power, in compliance with DIN VDE 0751-1/2001-10, Fig. C2.*

Pos. 1   = System

Pos. 2   = Application part type B (if available)

Pos. 3   = Measurement setup (integrated into measuring device)

Backup of printer-related programming

NOTE	**Local or PostScript printer installations**
	are not included when performing a backup.
	You should therefore make a note of the relevant data, such as printer and IP address.

Required Documents

Name	Print number
Troubleshooting Guide ARCADIS	SPR2-310.840.01.xx

Installation and cabling

Mounting frame installation

- Switch off the system and disconnect the power plug.
- After correct shutdown and switch off of the system, disconnect the power line output connector from the UPS.

Fig. 2:   Mechanical installation

- Remove the front cover of the monitor carriage.
- Remove the rear cover of the monitor carriage.
- Install the mounting frame (see marked screws). Remove Imaging System PC if necessary.

Fig. 3:   Sony printer, front view

- Unpack the printer according to the instructions from the printer manufacturer.
- Remove any transport fasteners according to the instructions from the printer manufacturer.
- Prepare the printer for installation according to the instructions from the printer manufacturer.
- Place the printer in the monitor carriage.

- Remove the left side cover of the monitor carriage (PC side).
- Run the power cable and USB cable (USB printer) or parallel port cable (Codonics printer) from the PC to the printer in the left cable run of the monitor trolley.
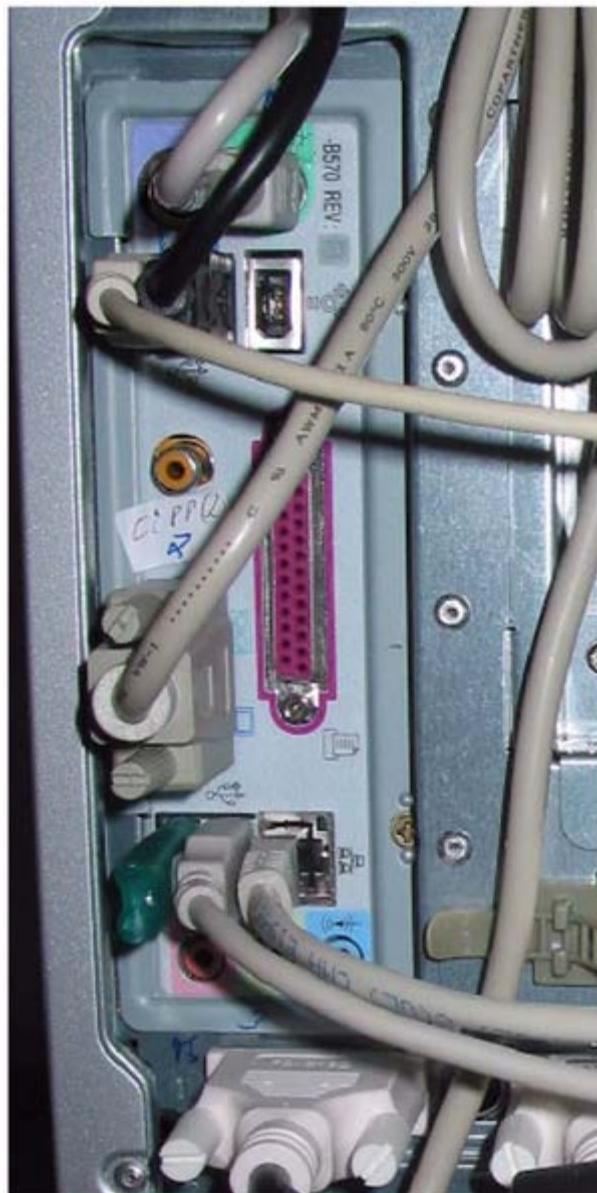
Fig. 4:   PC USB connection

- For USB printers: Connect the USB cable next to the dongle to the imaging system PC.
- For parallel port printers: Connect the parallel port cable to the LPT socket of the imaging system PC.

Fig. 5:   Sony USB

- Check the printer's line voltage setting.
  - The printer line voltage must be set to 230V AC.
- Connect the power cable to the printer.
  - The Sonly LPR 1000 is depicted in the image as an example.
- For USB printers: Do NOT YET connect the USB cable to the printer.
  - This cable has to be connected after installing the printer software.
- For parallel port printers: Connect the parallel port cable to the printer.
  - This cable can be connected before installation of the printer software.
- Switch on the printer power switch.
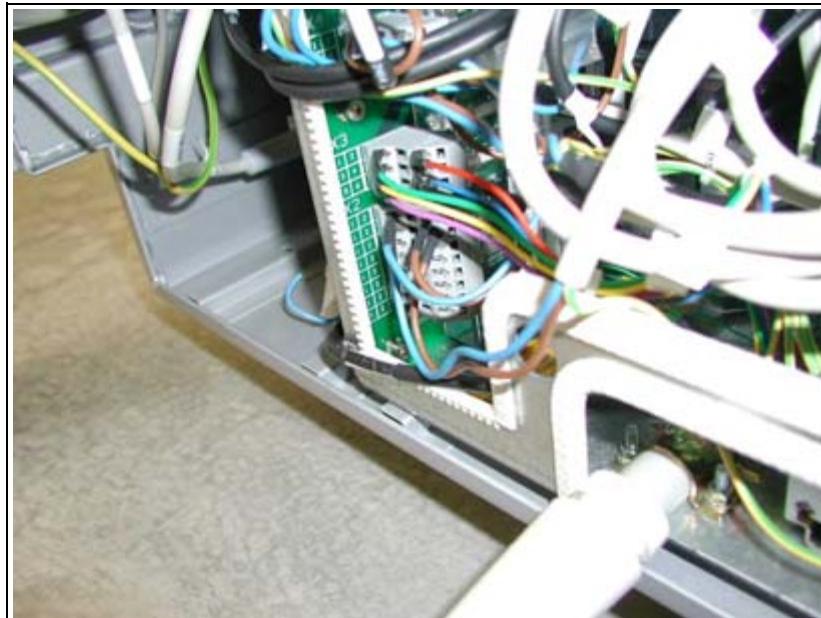
Fig. 6:   Connection_X3_001

- Connect the power cable's ground wire to ground clamp X5.

  X5 = (yel/grn)

- Connect power cable to X2.1 and X2.2 (output voltage 230V AC at transformer T1).

  X2.1 = blue

  X2.2 = brown

- Reconnect the previously disconnected power line output connector to the UPS.

Printer start-up

- Put the available printer into operation according to the manufacturer specifications. See the printer manufacturer documentation.

NOTE	**Sony printer UP-D72XR:** **Perform all points according to the "Setup manual" from the manufacturer.**

NOTE	**Keep any available transport fasteners to facilitate shipping of the printer for servicing.**

General information

NOTE	**Perform the steps described in this section only if a local printer is connected to the system (LPT1 or USB port).**

NOTE	**Local printer, PostScript printer.**
	These printers are not released for diagnostic purposes.
	Inform the responsible personnel about this restriction.

Sony UPD 72 (XR) local printer installation

Requirements

NOTE	**Do not connect the USB printer to the USB port until specified in the following description.**

1. Check the printer for printer paper.

   ⇨ Approximately 10 sheets of paper should be in the paper tray.

2. Disconnect the USB cable (printer - PC) from the printer.

3. Switch on the system and wait for it to boot.

Printer settings in the local service

1. Call up the local service and click on <Configuration> in the service menu.

2. The "Paper printer" checkbox ✔ must be selected in the "List of system options" window.

3. Click on <Next>.

Paper printer

1. Select "paper printer" in the "External devices" menu.

2. Select "A4" and "8x10" as the format in "Available paper printer media formats". All other formats must be deselected.

3. Click on <Save>.

Printer settings

1. Select "printer settings" in the "External devices" menu.

   ⇨ Ensure that "black" is selected as the "default value".

PS LUT files

1. Select "PS LUT files" in the "External devices" menu.

2. Ensure that the "Use LUT for PostScript printers" checkbox is selected.

3. Ensure that the "Use floating zoom factors" checkbox is selected.

4. In the "PS LUT directory" list field, select "PrtLUT_**Gamma**_1_6" (not "Printer LUT_1_6").

   ⇨ Scroll down in the list field until the LUT to be selected, "PrtLUT_**Gamma**_1_6", is visible.

5. Click <Select>.

   ⇨ The selected LUT appears in the "Current LUT" field.

6. Click <Save>.

NOTE	Do not shut the system down!

Log off as "meduser" and log on as "administrator"

1. Select <Home> in the service menu.

2. Select "system" under "Source".

3. Click on "Shut down application" and the <Go> button.

    ⇨ The message "Application shutdown was selected. Are you sure?" is displayed.

4. Click <OK>.

    ⇨ The application software is closed and the Windows XP operating system is active.

    ⇨ The message "Shutdown of Application finished.." is displayed.

5. Select <Start>-<Shut Down...> in the Windows XP menu bar.

6. Select "Log off meduser".

7. Click <OK> and then **immediately** press and hold the shift key on the keyboard.

    ⇨ The "Log on" window is displayed.

    - Enter "administrator" in the "User name" input field.

    - Enter the administrator password in the "Password" input field. See the SP password list.

NOTE	**If the password is invalid, proceed as follows: In the service menu, click <Configuration> - <Next>; under "Local Host", click <Users>. In the "Account for Administrator" fields, enter the password from the SP password list, confirm with "Confirm", and click <Save>.**

8. Click <OK>.

    ⇨ The Windows XP system now starts with administrator rights.

Sony UPD 72 printer driver installation and programming

Printer driver installation

1. Right-click on the <Start> button in the Windows XP menu bar and then select <Explorer>.

    ⇨ Windows Explorer opens and is displayed.

2. Select and open the path "C:\ASPIA\driver\UPD72".

    ⇨ The contents of the subdirectory "C:\ASPIA\driver\UPD72" are displayed.

3. Launch the file "printer_Sony UP-D-72XR.reg" by double-clicking.

4. Confirm the displayed message by clicking on the <Yes> and <OK> buttons.

5. Start the file "setup.exe" in the directory "C:\Aspia\driver\UPD72\" by double-clicking.

6. Perform the installation procedure.

   ⇨ During the procedure, you will be prompted to connect the printer to the USB port.

   ⇨ If the message "Printer is not found. Installation cancelled?" is displayed, click the <Retry> button.

Printer driver settings

1. Select <Start>-<Settings>-<Printers and Faxes> in the Windows menu bar.

2. Right-click on the "Sony UP-D72XR" icon and select the <Properties> menu.

3. Select <Advanced>.

4. Select <Printing Defaults> and deselect "Margin Print".

   - "Margin Print" = ☐

5. Click on <Apply>.

6. Click on <Graphics> and make the following selections:

   - "Sharpness" = "1"
   - "Dark" = "0"
   - "Gamma" = "8"
   - "Light" = "- 8" (minus 8)

7. Click on <Apply>.

8. Click on <Save>.

   ⇨ The "Untitled.72x" window appears.

9. Click on <Save>.

10. In the "Sony UP-D72XR Properties" window, click "General" and "Print a Test Page".

   ⇨ The Windows test page is printed.

11. Click <OK>.

   ⇨ The window closes.

12. Select <Start> - <Shut Down> - <Restart> in the Windows menu bar and confirm with <OK> to restart the system.

   ⇨ After the system restart, you are logged on again as "meduser".

Printer settings in the syngo application software

Set the film size under "Filming".

1. Select the "Filming" tab card on the right monitor.

   ⇨ The "Filming" tab card is active.

2. Select "Camera" in the "Filming" tab card.

3. Open the "Camera" list field and click on "Sony UPD72".

   ⇨ The "Sony UPD72" list field is selected.

4. Open the "Film size" list field and click on "8x10".

   ⇨ The "8x10" list field is selected.

Set the standard printer for "structured reporting"

1. Select the <Options>-<Configuration> menu in the "Examination" tab card.

   ⇨ The "Configuration" window is displayed.

2. Double-click the <Structured reporting> icon ("Strukturierte Befundung").

3. Open the "Default printer" list field and click on "Sony UPD72".

   ⇨ The "SonyUPD72" list field is selected.

4. Open the "Default paper size" list field and click on "8x10".

   ⇨ The "8x10" list field is selected.

5. Select <Apply> and then <OK>.

"Filming layout" configuration

1. Double-click on the <Filming layout> icon in the "Configuration" window.

NOTE	**If a message box appears, click OK to confirm and double-click the <Filming Layout> icon again.**

2. Make the following selections in the "Filming" tab card:
   - New film job by patient = ✔
   - New film sheet by (study or series) = ☐
   - New row of images by (patient, study, or series) = ☐
   - Number of copies = "1"
   - Exposure every X document = "1"
   - Film size = "8x10" --> Click "8x10".

     ⇨ The "8x10" list field is selected.

NOTE	**If the film size is not displayed, restart the system via <Options>-<End Session>-<Shutdown System> and repeat the section "Printer settings in the syngo application software".**

   - Segment lines = "Yes"
   - Page number on print out = ✔

3. Click on <Apply>.

4. Make the following selections in the "Series" tab card:
   - Layout divisions = "1x1"
   - Orientation = "Portrait" ("Hochformat")
   - Image order = "Horizontal"
   - Aspect Ratio = "Keep visible part"
   - Copy Series = ☐

5. Select <Apply> and <OK>.

6. Shut down the system by selecting <Options>-<End Session>-<Shut Down System>.

7. Turn the system on again and perform the steps in the "Printer test" chapter of these instructions.

Sony UPD 970 and UPD 990 local printer installation

Requirements

NOTE	**Do not connect the USB printer to the USB port until specified in the following description.**

1. Check to make sure the printer has printer paper or film.
2. Disconnect the USB cable (printer - PC) from the printer.
3. Switch on the system and wait for it to boot.

Printer settings in the local service

1. Call up the local service and click on <Configuration> in the service menu.
2. The "Paper printer" checkbox ✔ must be selected in the "List of system options" window.
3. Click on <Next>.

Paper printer

1. Select "paper printer" in the "External devices" menu.
2. Select "A4" and "8x10" as the format in "Available paper printer media formats". All other formats must be deselected.
3. Click on <Save>.

Printer settings

1. Select "printer settings" in the "External devices" menu.
    ⇨ Ensure that "black" is selected as the "default value".

PS LUT files

1. Select "PS LUT files" in the "External devices" menu.
2. Ensure that the "Use LUT for PostScript printers" checkbox is not selected.
    ⇨ The "PS LUT directory" list field is not utilized.
3. Ensure that the "Use floating zoom factors" checkbox is selected.
4. Click on <Save>.

NOTE	**Do not shut the system down!**

Log off as "meduser" and log on as "administrator"

1. Select <Home> in the service menu.

2. Select "system" under "Source".

3. Click on "Shut down application" and the <Go> button.

   ⇨ The message "Application shutdown was selected. Are you sure?" is displayed.

4. Click <OK>.

   ⇨ The application software is closed and the Windows XP operating system is active.

   ⇨ The message "Shutdown of Application finished.." is displayed.

5. Select <Start>-<Shut Down...> in the Windows XP menu bar.

6. Select "Log off meduser".

7. Click <OK> and then **immediately** press and hold the shift key on the keyboard.

   ⇨ The "Log on" window is displayed.

   - Enter "administrator" in the "User name" input field.

   - Enter the administrator password in the "Password" input field. See the SP password list.

NOTE	**If the password is invalid, proceed as follows: In the service menu, click <Configuration> - <Next>; under "Local Host", click <Users>. In the "Account for Administrator" fields, enter the password from the SP password list, confirm with "Confirm", and click <Save>.**

8. Click <OK>.

   ⇨ The Windows XP system now starts with administrator rights.

Sony UPD 970/990 printer driver installation and programming

Printer driver installation

1. Right-click on the <Start> button in the Windows XP menu bar and then select <Explorer>.

   ⇨ Windows Explorer opens and is displayed.

2. Select and open the path "C:\ASPIA\driver\UPD9X0".

   ⇨ The contents of the subdirectory "C:\ASPIA\driver\UPD9X0" are displayed.

3. Launch the file "printer_Sony_UP-970AD_990AD.reg" by double-clicking.

4. Confirm the displayed message by clicking on the <Yes> and <OK> buttons.

5. Connect the USB cable to the printer and switch the printer on.

   ⇨ The hardware installation routine starts automatically.

   ⇨ The installation routine follows:

- Select "No, not this time".
- Click on <Next>.
- Select "Install from a specific location (Advanced)".
- Click on <Next>.
- Select "Include this location in the search".
- Select "Browse".
- Select the path "C:\ASPIA\driver\UPD9X0".
- Click <OK>.
- Click on <Next>.

⇨ The driver installation starts automatically.

- Click <Finish>.

Printer driver configuration

1. Select <Start>-<Settings>-<Printers and Faxes> in the Windows menu bar after driver installation.

2. Right-click on the Sony printer icon and click on the <Properties> menu.

3. Select the menu <Advanced> - <Printing Defaults> - <Density Adjust> and set the following values:

⇨ Gamma = "Tone1"

⇨ Advanced = "0"

⇨ Dark = "0"

⇨ Light = "-15" (minus 15)

⇨ Sharpness = "4"

4. Select <Apply> and then <OK>.

5. In the "Sony UP-970AD/990AD Properties" window, click "General" and "Print a Test Page".

⇨ The Windows test page is printed.

6. Select <Start> - <Shut Down> - <Restart> in the Windows menu bar and confirm with <OK> to restart the system.

⇨ After the system restart, the system is logged on again as "meduser".

Printer settings in the syngo application software

Set the film size under "Filming".

1. Select the "Filming" tab card on the right monitor.

⇨ The "Filming" tab card is active.

2. Select "Camera" in the "Filming" tab card.

3. Open the "Camera" list field and click on "Sony UP-970AD/990AD".

⇨ The "Sony UP-970AD/990AD" list field should light up.

4. Open the "Film size" list field and click on "8x10".

⇨ The "8x10" list field is selected.

Set the standard printer for "structured reporting"

1. Select the <Options>-<Configuration> menu in the "Examination" tab card.

⇨ The "Configuration" window is displayed.

2. Double-click on the <Structured reporting> icon ("Struckturierte Befundung").

3. Open the "Default printer" list field and click on "Sony UP-970AD/990AD".

⇨ The "Sony UP-970AD/990AD" list field is selected.

4. Open the "Default paper size" list field and click on "8x10".

⇨ The "8x10" list field is selected.

5. Select <Apply> and then <OK>.

"Filming layout" configuration

1. Double-click on the <Filming layout> icon in the "Configuration" window.

NOTE	**If a message box appears, click OK to confirm and double-click the <Filming Layout> icon again.**

2. Make the following selections in the "Filming" tab card:

    -   New film job by patient = ☑
    -   New film sheet by (study or series) = ☐
    -   New row of images by (patient, study, or series) = ☐
    -   Number of copies = "1"
    -   Exposure every X document = "1"
    -   Film size = "8x10" --> Click "8x10".

    ⇨ The "8x10" list field is selected.

NOTE	**If the film size is not displayed, restart the system via <Options>-<End Session>-<Shutdown System> and repeat the section "Printer settings in the syngo application software".**

    -   Segment lines = "Yes"
    -   Page number on print out = ☑

3. Click on <Apply>.

4. Make the following selections in the "Series" tab card:

    -   Layout divisions = "1x1"
    -   Orientation = "Portrait" ("Hochformat")
    -   Image order = "Horizontal"
    -   Aspect Ratio = "Keep visible part"
    -   Copy Series = ☐

5. Click on <Apply>.

6. Shut down the system by selecting <Options>-<End Session>-<Shut Down System>.

7. Turn the system on again and perform the steps in the "Printer test" chapter of these instructions.

Codonics printer EP-1660L

Requirements

1. Check the printer for printer paper.

   ⇨ Approximately 10 sheets of paper should be in the paper tray.

2. The printer must be connected to the PC.

3. Switch on the system and wait for it to boot.

Printer settings in the local service

1. Call up the local service and click on <Configuration> in the service menu.

2. The "Paper printer" checkbox ☑ must be selected in the "List of system options" window.

3. Click on <Next>.

Paper printer

1. Select "paper printer" in the "External devices" menu.

2. In "Available paper printer media formats", select "8x10". All other formats must be deselected.

3. Click on <Save>.

Printer settings

1. Select "printer settings" in the "External devices" menu.

   ⇨ Ensure that "black" is selected as the "default value".

PS LUT files

1. Select "PS LUT files" in the "External devices" menu.

2. Ensure that the "Use LUT for PostScript printers" checkbox is selected.

3. Ensure that the "Use floating zoom factors" checkbox is selected.

4. In the "PS LUT directory" list field, select "PrtLUT_Gamma_1_6" (not "Printer LUT_1_6").

   ⇨ Scroll down in the list field until the LUT to be selected, "PrtLUT_**Gamma**_1_6", is visible.

5. Click <Select>.

   ⇨ The selected LUT appears in the "Current LUT" field.

6. Click <Save>.

NOTE	Do not shut the system down!

Log off as "meduser" and log on as "administrator"

1. Select <Home> in the service menu.

2. Select "system" under "Source".

3. Click on "Shut down application" and the <Go> button.

   ⇨ The message "Application shutdown was selected. Are you sure?" is displayed.

4. Click <OK>.

   ⇨ The application software is closed and the Windows XP operating system is active.

   ⇨ The message "Shutdown of Application finished.." is displayed.

5. Select <Start>-<Shut Down...> in the Windows XP menu bar.

6. Select "Log off meduser".

7. Click <OK> and then **immediately** press and hold the shift key on the keyboard.

   ⇨ The "Log on" window is displayed.

   - Enter "administrator" in the "User name" input field.
   - Enter the administrator password in the "Password" input field. See the SP password list.

NOTE	If the password is invalid, proceed as follows: In the service menu, click <Configuration> - <Next>; under "Local Host", click <Users>. In the "Account for Administrator" fields, enter the password from the SP password list, confirm with "Confirm", and click <Save>.

8. Click <OK>.

   ⇨ The Windows XP system now starts with administrator rights.

Codonics EP-1660L printer driver installation and programming

Printer driver installation

1. Right-click on the <Start> button in the Windows XP menu bar and then select <Explorer>.

   ⇨ Windows Explorer opens and is displayed.

2. Select and open the path "C:\ASPIA\driver\EP-1660L".

   ⇨ The contents of the subdirectory "C:\ASPIA\driver\EP-1660L" are displayed.

3. Double-click the "printer_Codonics EP-1660.reg" file and click <Yes> and <OK> in the message box that displays.

4. Launch the file "ep1660L-windriver-2959.exe" by double-clicking.

   ⇨ The "Codonics EP-Series Printing System Installer" window is displayed.

5. Click <OK>.

   ⇨ The "WinZip Self Extractor-ep1660L-windriver-2959" window is displayed.

6. Click <Setup>.

   ⇨ The "Welcome to the Add Printer Wizard" window is displayed.

Installation of the printer files

1. After the "Welcome to the Add Printer Wizard" window is displayed, click <Next>.

   ⇨ The "Local or network printer" window is displayed.

2. If not already selected, select the "Local printer attached to this computer" button.

3. Deselect the "Automatically detect and install my Plug and Play printer" button.

4. Click on <Next>.

   ⇨ The "Select a printer port" window is displayed.

5. If the "Use the following port:" button is not already selected, select it. The list field opens.

6. Click on "EPR1:(Codonics EP-Series Port Monitor)" in the list field.

7. Click on <Next>.

   ⇨ The "Install printer software" window is displayed.

8. Click <Have Disk...>.

   ⇨ The "Install from disk" window is displayed.

9. Click <Browse>.

   ⇨ The Explorer window is displayed.

10. The path "C:\CODONICS\driver\win2k_xp" opens.

    ⇨ The contents of the open path are displayed.

11. Select the file "Codonics-EP.INF" and click on the <Open> button.

    ⇨ The "Install From Disk" window displays the selected path.

12. Click <OK>.

    ⇨ The message "This driver is not digitally signed!" is displayed.

13. Click <Next>.

    ⇨ The "Name your Printer" window is displayed.

14. Click on <Next> to confirm the displayed printer name "Codonics EP-1660".

    ⇨ The software installation resumes.

    ⇨ The "Print test page" window is displayed.

15. Select the <No> option button.

16. Click on <Next>.

    ⇨ The "Completing the Add Printer Wizard" window is displayed.

17. Click on <Finish> to close "Add printer wizard".

⇨ Close any other displayed messages.

Printer driver settings

1. Select <Start>-<Settings>-<Printers and Faxes> in the Windows menu bar.

    ⇨ The <Printers and Faxes> window is displayed.

2. Right-click on the "Codonics EP-1660" icon.

    ⇨ A small menu window is displayed on the right near the mouse pointer.

3. Select and click on the <Properties> menu.

    ⇨ The "Codonics EP-1660L properties" window is displayed.

4. Select the <Advanced> tab card in the "Codonics EP-1660L properties" window.

5. Click on <Printing defaults>.

    ⇨ The "Codonics EP-1660L printing defaults" window is displayed.

6. Click on the <Advanced> button in the "Layout" tab card.

    ⇨ The "Codonics EP-1660L advanced options" window is displayed.

7. Open the "Paper size" list field and click on "8x10".

    ⇨ The "8x10" list field is selected.

8. Click on <OK> to close the "Codonics EP-1660L advanced" window.

9. Click on <OK> to close the "Codonics EP-1660L printing defaults" window.

10. Select the "Device settings" tab card in the "Codonics EP-1660L properties" window.

11. Open the "Form To Tray Assignment Only One" list field and select "8x10".

    ⇨ The "8x10" list field is selected.

NOTE	**Do not select "Film (8x10 in.)" in the "Form To Tray Assignment Only One".**

12. Click on <Apply>.

13. In the "Sony UP-D72XR Properties" window, click "General" and "Print a Test Page".

    ⇨ The Windows test page is printed.

14. Click on <OK> to close the "Codonics EP-1660L properties" window.

15. Select <Start> - <Shut Down> - <Restart> in the Windows menu bar and confirm with <OK> to restart the system.

    ⇨ After the restart, the system is logged on again as "meduser".

Printer settings in the syngo application software

Set the film size under "Filming".

1. Select the "Filming" task card on the right monitor.

    ⇨ The "Filming" tab card is active.

2. Select "Camera" in the "Filming" task card.

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3. Open the "Camera" list field and click on "Codonics EP-1660L".

4. Open the "Film size" list field and click on "8x10".

   ⇨ The "8x10" list field is selected.

Set the film size for "structured reporting"

1. Select the <Options>-<Configuration> menu in the "Examination" tab card.

   ⇨ The "Configuration" window is displayed.

2. Double-click on the <Structured reporting> icon ("Struckturierte Befundung").

3. Open the "Default printer" list field and click on "Codonics EP-1660L".

   ⇨ The "Codonics EP-1660L" list field is selected.

4. Open the "Default paper size" list field and click on "8x10".

   ⇨ The "8x10" list field is selected.

5. Select <Apply> and then <OK>.

"Filming layout" configuration

1. Double-click on the <Filming layout> icon in the "Configuration" window.

NOTE	**If a message box appears, click OK to confirm and double-click the <Filming Layout> icon again.**

2. Make the following selections in the "Filming" tab card:
   - New film job by patient = ☑
   - New film sheet by (study or series) = ☐
   - New row of images by (patient, study, or series) = ☐
   - Number of copies = "1"
   - Exposure every X document = "1"
   - Film size = "8x10" --> Click "8x10".

     ⇨ The "8x10" film size is selected.

NOTE	**If the film size is not displayed, restart the system via <Options>-<End Session>-<Shutdown System> and repeat the section "Printer settings in the syngo application software".**

   - Segment lines = "Yes"
   - Page number on print out = ☑

3. Click on <Apply>.

4. Make the following selections in the "Series" tab card:

- Layout divisions = "1x1"
- Orientation = "Portrait" ("Hochformat")
- Image order = "Horizontal"
- Aspect Ratio = "Keep visible part"
- Copy Series = ☐

5. Select <Apply> and <OK>.

6. Shut down the system by selecting <Options>-<End Session>-<Shut Down System>.

7. Turn the system on again and perform the steps in the "Printer test" chapter of these instructions.

Printer tests

Testing the printer function

NOTE	**The system is still running.**
	If not, switch the system on and wait for it to boot.

1. Open the local service and enter the password.
   - ⇨ The "service patient" and the corresponding test images are only displayed in the patient browser if the local service is open and the user is logged in.
2. Open the patient browser.
3. Open the "Service patient" folder.
4. Open the SMPTE test image.
5. Send the SMPTE test image to the "Filming" task card.

NOTE	**An image is first sent to the Filming task card as default programming and must then be printed in the Filming task card.**
	If the default programming was changed and the printout was sent directly to the printer, press the Print button on the keyboard of the monitor trolley. The image is then sent directly to the local printer and the printer starts directly with the printing of the image.

6. The "Filming" task card is selected on the right monitor.
7. Start printing on the local printer in the "Filming" task card.
   - ⇨ The printer should soon start printing the test image.

Testing the printer image quality

NOTE	**Use the previously printed test image to evaluate the image quality.**

1. Evaluate the image quality of the printed SMPTE test image.
   - ⇨ The minimum contrast fields 5% and 95% in the SMPTE test image should be visible.
   - ⇨ The image impression of the SMPTE test image displayed on the monitor should be approximately the same as the image impression of the printed SMPTE test image.

NOTE	If the image quality of the printout is not acceptable, another printer LUT can be programmed as the default LUT. Perform programming according to the descriptions in the"Printer settings in the local service" section of the "Local printer installation" chapter of these instructions.
	Use the LUTs "PrtLUT_Gamma_x_y".

NOTE	When printer UP970 or UP990 is present, the contrast and brightness of the printout can changed directly on the front panel of the printer or via the settings in the printer driver.
	To change the settings in the driver, you must be logged in as "Administrator".

Final Work Steps

Customer training

- Briefly explain how to print images on the system to the customer. (Transfer of the images to be printed in the Filming task card, printout of the images from the Filming task card).

- Transfer all printer documents and accessories to the customer.

Ground conductor resistance test

- After closing all covers, conduct the ground conductor test according to ARTD002-731.17.00.

    ⇨ The protective conductor resistance must not exceed 0.2 ohms.

All chapters:

New revision status created.

Chapter 3: Completely rewritten.